

REMARKS

This reply is submitted in response to the Final Office Action dated August 9, 2005. Claims 1 and 7 are amended, as noted above. The amendments above and the remarks that follow address the points raised in the Office Action and, thereby are believed to place this application in condition for allowance.

Allowed Claims

Applicants acknowledge with appreciation the allowance of claims 11-20.

Claim Rejections under 35 U.S.C. § 102

Claims 1-10 stand rejected under 35 U.S.C § 102(b) as being anticipated by U.S. Patent No. 6,014,408 of Naruse et al.

Claim 1 is directed to an improvement in a spread spectrum system that processes a plurality of waveforms transmitted by respective users. The improvement comprises two registers associated with l^{th} and k^{th} users each for storing elements of a code sequence associated with one of the l^{th} and k^{th} users. The alignment of the code sequence loaded in one register is shifted by m elements relative to that of the other register. The improvement further comprises two further registers, each for storing mask sequences associated with the code sequences of a respective one of the l^{th} and k^{th} users, such that a mask element is zero or non-zero if a corresponding element of the associated code sequence is zero or non-zero, respectively. The alignment of the mask sequence in one of those registers is shifted relative to those in the other register by m elements. A first logic unit is coupled to the registers for performing an arithmetical operation on the code sequences and mask sequences to generate, for m^{th} transmitted symbol, the (l, k) element of a matrix that represents correlations among the code sequences associated with the respective users. A second logic unit is coupled to the first logic unit to generate a matrix that represents correlations among the waveforms transmitted by the users as a function of the matrix that represents correlations among the code sequences associated with respective users. A third logic unit is coupled to the second logic unit for computing detection statistics corresponding to symbols transmitted by the users.

Naruse is generally directed to a system for generating a pseudo-random noise code using load data for generating the code and mask data for designating the phase of the code. It discloses correlating a code associated with a signal received from a user with a pseudo-random noise (PN) code that was utilized to encode that signal (See Col. 7, lines 23-40 of Naruse). Naruse, however, does not teach a logic unit that computes pair-wise correlations among code sequences of a plurality of different users transmitting waveforms to the system. Nor does it teach the specific configuration of registers recited in claim 1 for storing those code sequences and their associated masks.

Further, there is no indication in Naruse that its system generates a matrix representing correlations among waveforms transmitted by a plurality of users, as amended claim 1 now recites.

Thus, claim 1 and claims 2-6, which depend either directly or indirectly from claim 1, are patentable over Naruse.

The arguments above apply with equal force to establish that independent claim 7 is also patentable. For example, similar to claim 1, claim 7 recites generating a matrix whose elements represent pair-wise correlations between code sequences associated with different users transmitting waveforms to a spread spectrum system, and generating a matrix whose elements represent correlations between waveforms transmitted by those users – features not taught by Naruse.

Thus, claim 7 and claims 8-10, which depend either directly or indirectly from claim 7, are patentable over Naruse.

Conclusion

In view of the above amendments and remarks, Applicant respectfully submits that the claimed invention is patentable. Applicant therefore kindly requests reconsideration and allowance of the pending application.

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Respectfully submitted,

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